

CD103PCT.ST25.txt

SEQUENCE LISTING

<110> CropDesign N.V.

<120> Plants having modified growth characteristics and method for making the same

<130> CD-103-PCT

<150> EP 03077811.2

<151> 2003-09-05

<160> 21

<170> PatentIn version 3.3

<210> 1

<211> 930

<212> DNA

<213> Arabidopsis thaliana

<400> 1

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| gcgatggaga | aaggaactgg | taagcttggt | gctctgaaga | aaactcgtct | cgagatggac | 120 |
| gaagaaggta | ttccaccaac | tgctcttcgt | gagatctcgc | ttctccagat | gttatcaaca | 180 |
| tcgatctatg | ttgttcgatt | actctgcgtc | gaacatgttc | atcaaccatc | aaccaaatct | 240 |
| caatctacca | aatccaatct | ctatctcgtt | ttcgagtatc | tcgatactga | tcttaagaaa | 300 |
| ttcatcgatt | cgtataggaa | aggacctaata | cctaagcctc | ttgagccttt | tttgattcag | 360 |
| aagttgatgt | ttcagctttg | taaagggtgt | gcgcattgtc | atagtcattg | tgtgcttcac | 420 |
| cgtgatctta | aaccgcagaa | tcttcttcgt | gtgaaagata | aagagcttct | taagattgct | 480 |
| gatttgggtc | ttggtcgtgc | ttttactgtt | cctcttaagt | cttatacgca | tgagattggt | 540 |
| actctttggt | atagagctcc | tgaagttctt | cttggtacta | ctcattattc | aactgggtgt | 600 |
| gacatgtggt | ctgttggttg | tatctttgct | gagatgggtc | ggaggcaagc | tcttttcctt | 660 |
| ggtgattctg | agtttcagca | attgcttcat | atcttcaggt | tgctaggaac | accaactgag | 720 |
| cagcaatggc | cgggtgtttc | cacactgcgt | gactggcatg | tttaccctaa | gtgggagccg | 780 |
| caagacttaa | ctcttgctgt | tccttctctt | tcacctcaag | gagttgatct | tctcacgaaa | 840 |
| atgctcaagt | acaatccagc | cgaaagaatt | tcagcaaaaa | cagcacttga | tcacccatat | 900 |
| tttgacagcc | ttgacaagtc | tcagttctga | | | | 930 |

<210> 2

<211> 309

<212> PRT

<213> Arabidopsis thaliana

<400> 2

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Lys | Tyr | Glu | Lys | Leu | Glu | Lys | Val | Gly | Glu | Gly | Thr | Tyr | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Val | Tyr | Lys | Ala | Met | Glu | Lys | Gly | Thr | Gly | Lys | Leu | Val | Ala | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Lys | Thr | Arg | Leu | Glu | Met | Asp | Glu | Glu | Gly | Ile | Pro | Pro | Thr | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Leu | Arg | Glu | Ile | Ser | Leu | Leu | Gln | Met | Leu | Ser | Thr | Ser | Ile | Tyr | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Arg | Leu | Leu | Cys | Val | Glu | His | Val | His | Gln | Pro | Ser | Thr | Lys | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |

CD103PCT.ST25.txt

Gln Ser Thr Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu Asp Thr
85 90 95

Asp Leu Lys Lys Phe Ile Asp Ser Tyr Arg Lys Gly Pro Asn Pro Lys
100 105 110

Pro Leu Glu Pro Phe Leu Ile Gln Lys Leu Met Phe Gln Leu Cys Lys
115 120 125

Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp Leu Lys
130 135 140

Pro Gln Asn Leu Leu Leu Val Lys Asp Lys Glu Leu Leu Lys Ile Ala
145 150 155 160

Asp Leu Gly Leu Gly Arg Ala Phe Thr Val Pro Leu Lys Ser Tyr Thr
165 170 175

His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu Leu Gly
180 185 190

Ser Thr His Tyr Ser Thr Gly Val Asp Met Trp Ser Val Gly Cys Ile
195 200 205

Phe Ala Glu Met Val Arg Arg Gln Ala Leu Phe Pro Gly Asp Ser Glu
210 215 220

Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro Thr Glu
225 230 235 240

Gln Gln Trp Pro Gly Val Ser Thr Leu Arg Asp Trp His Val Tyr Pro
245 250 255

Lys Trp Glu Pro Gln Asp Leu Thr Leu Ala Val Pro Ser Leu Ser Pro
260 265 270

Gln Gly Val Asp Leu Leu Thr Lys Met Leu Lys Tyr Asn Pro Ala Glu
275 280 285

Arg Ile Ser Ala Lys Thr Ala Leu Asp His Pro Tyr Phe Asp Ser Leu
290 295 300

Asp Lys Ser Gln Phe
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<212> DNA
<213> Arabidopsis thaliana

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gaagaaggta taccaccaac ggctctccgt gagatctctc ttctccaaat gctttctcaa 180
tcaatctaca tcgttcgtct cctctgcgtc gaacatgtta ttcaatcgaa agattcgact 240
gtttctcact ctcccaaata caatctctat ctcgtttttg agtatctcga cactgatctc 300
aagaaattta tagattctca tagaaagggc tcgaatccta gaccgcttga ggcttctctt 360
gtgcagaggt ttatgtttca gctttttaaa ggtgtggctc attgtcatag ccatgggtgtg 420

CD103PCT.ST25.txt

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attgttactc tttggatatag agctcctgaa gttttgcttg gttctactca ttactctact 600
gctgttgata tttgggtctgt tggatgcatc tttgccgaga tgattaggag gcaagctctt 660
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gagccgcaag acttatcacg tgctgttcca tctctatctc ctgaaggaat tgatcttctc 840
acgcaaatgt tgaagtacaa tccagcagaa agaatttcag caaaagcagc tctcgatcat 900
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<210> 4

<211> 311

<212> PRT

<213> Arabidopsis thaliana

<400> 4

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```

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Lys Val Tyr Lys Ala Met Glu Lys Thr Thr Gly Lys Leu Val Ala Leu
20          25          30

```

```

Lys Lys Thr Arg Leu Glu Met Asp Glu Glu Gly Ile Pro Pro Thr Ala
35          40          45

```

```

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Gln Ser Ile Tyr Ile
50          55          60

```

```

Val Arg Leu Leu Cys Val Glu His Val Ile Gln Ser Lys Asp Ser Thr
65          70          75          80

```

```

Val Ser His Ser Pro Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu
85          90          95

```

```

Asp Thr Asp Leu Lys Lys Phe Ile Asp Ser His Arg Lys Gly Ser Asn
100          105          110

```

```

Pro Arg Pro Leu Glu Ala Ser Leu Val Gln Arg Phe Met Phe Gln Leu
115          120          125

```

```

Phe Lys Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp
130          135          140

```

```

Leu Lys Pro Gln Asn Leu Leu Asp Lys Asp Lys Gly Ile Leu Lys
145          150          155          160

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```

Ile Ala Asp Leu Gly Leu Ser Arg Ala Phe Thr Val Pro Leu Lys Ala
165          170          175

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```

Tyr Thr His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu
180          185          190

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Leu Gly Ser Thr His Tyr Ser Thr Ala Val Asp Ile Trp Ser Val Gly
195          200          205

```

```

Cys Ile Phe Ala Glu Met Ile Arg Arg Gln Ala Leu Phe Pro Gly Asp
210          215          220

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Ser Glu Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro

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[illegible]

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|------------|----------------------|------------|------------|------------|------------|--|-----|
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| <211> | 948 | | | | | | |
| <212> | DNA | | | | | | |
| <213> | Arabidopsis thaliana | | | | | | |
| | | | | | | | |
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| aaagtaggtg | aagggaactta | tgggaaagtt | tacagagcaa | gagagaaagc | tactgggatg | | 120 |
| atcgttgctt | tgaagaagac | gcgtctccat | gaggatgaag | aagggtgttc | tcccactact | | 180 |
| cttcgcgaga | tctctatctt | gcgtatgctc | gctcgtgatc | ctcacatcgt | taggttgatg | | 240 |
| gatgttaagc | aaggaataaa | caaagaagga | aaaactgtac | tttaccttgt | tttcgagtat | | 300 |
| gttgatactg | atctcaagaa | attcatcaga | agctttcgtc | aagctggaca | gaacattcca | | 360 |
| caaaatactg | tcaagtgcct | gatgtaccag | ttatgcaaag | gcatggcttt | ttgccatggt | | 420 |
| catggagtgt | tgcacagggg | tcttaagcct | cacaatctct | tgatggaccg | gaagacaatg | | 480 |
| acgctcaaaa | tagcagatct | tggattagcc | agagccttca | ctctcccaat | gaaaaagtat | | 540 |
| acacatgaga | ttctaactct | atggtataga | gctccggaag | ttcttcttgg | agcaacccat | | 600 |
| tactctactg | gagtggatat | gtggctctgt | ggctgtattt | ttgctgaact | agtgaccaag | | 660 |
| caagcaatct | ttgcgggaga | ctctgagctc | caacagctcc | tccgtatatt | caggttggtg | | 720 |
| ggaacaccaa | acgaagaagt | ttggcctgga | gtaagcaaac | tcaaggactg | gcatgaatac | | 780 |
| cgcgaattga | ataacgttgag | tctctccaca | gcgtgtgcaa | acctcgacga | ggctggactt | | 840 |
| gatctcttat | ctccaatgct | ggagtacgag | ccagtgcaaa | gaatctcagc | aaagaagact | | 900 |
| atggagcatc | cttacttcga | tgatttgcct | gacaagtcct | ctctctga | | | 948 |

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<212> PRT
<213> Arabidopsis thaliana
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Glu Lys Leu Glu Lys Val Gly Glu Gly Thr Tyr Gly Lys Val Tyr Arg
20          25          30

Ala Arg Glu Lys Ala Thr Gly Met Ile Val Ala Leu Lys Lys Thr Arg
35          40          45

Leu His Glu Asp Glu Glu Gly Val Pro Pro Thr Thr Leu Arg Glu Ile
50          55          60

Ser Ile Leu Arg Met Leu Ala Arg Asp Pro His Ile Val Arg Leu Met

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CD103PCT.ST25.txt

| | | | | | | |
|---|-----|----|--|-----|--|-----|
| 65 | | 70 | | 75 | | 80 |
| Asp Val Lys Gln Gly Ile Asn Lys Glu Gly Lys Thr Val Leu Tyr Leu | | | | | | |
| | 85 | | | 90 | | 95 |
| Val Phe Glu Tyr Val Asp Thr Asp Leu Lys Lys Phe Ile Arg Ser Phe | | | | | | |
| | 100 | | | 105 | | 110 |
| Arg Gln Ala Gly Gln Asn Ile Pro Gln Asn Thr Val Lys Cys Leu Met | | | | | | |
| | 115 | | | 120 | | 125 |
| Tyr Gln Leu Cys Lys Gly Met Ala Phe Cys His Gly His Gly Val Leu | | | | | | |
| | 130 | | | 135 | | 140 |
| His Arg Asp Leu Lys Pro His Asn Leu Leu Met Asp Arg Lys Thr Met | | | | | | |
| | 145 | | | 150 | | 155 |
| Thr Leu Lys Ile Ala Asp Leu Gly Leu Ala Arg Ala Phe Thr Leu Pro | | | | | | |
| | 165 | | | 170 | | 175 |
| Met Lys Lys Tyr Thr His Glu Ile Leu Thr Leu Trp Tyr Arg Ala Pro | | | | | | |
| | 180 | | | 185 | | 190 |
| Glu Val Leu Leu Gly Ala Thr His Tyr Ser Thr Gly Val Asp Met Trp | | | | | | |
| | 195 | | | 200 | | 205 |
| Ser Val Gly Cys Ile Phe Ala Glu Leu Val Thr Lys Gln Ala Ile Phe | | | | | | |
| | 210 | | | 215 | | 220 |
| Ala Gly Asp Ser Glu Leu Gln Gln Leu Leu Arg Ile Phe Arg Leu Leu | | | | | | |
| | 225 | | | 230 | | 235 |
| Gly Thr Pro Asn Glu Glu Val Trp Pro Gly Val Ser Lys Leu Lys Asp | | | | | | |
| | 245 | | | 250 | | 255 |
| Trp His Glu Tyr Pro Gln Trp Lys Pro Leu Ser Leu Ser Thr Ala Val | | | | | | |
| | 260 | | | 265 | | 270 |
| Pro Asn Leu Asp Glu Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Glu | | | | | | |
| | 275 | | | 280 | | 285 |
| Tyr Glu Pro Ala Lys Arg Ile Ser Ala Lys Lys Ala Met Glu His Pro | | | | | | |
| | 290 | | | 295 | | 300 |
| Tyr Phe Asp Asp Leu Pro Asp Lys Ser Ser Leu | | | | | | |
| | 305 | | | 310 | | 315 |

<210> 7

<211> 1115

<212> DNA

<213> Oryza sativa

<400> 7

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| tcccctcgcc | gaccctacct | actcgcgccg | ccgccgtcgc | attgggcggc | aaacggaggg | 120 |
| gggggttaacc | ctgatggagc | agtacgagaa | ggaggagaag | attggggagg | gcacgtacgg | 180 |
| ggtggtgtac | agggcgcggg | acaaggtcac | caacgagacg | atcgcgctca | agaagatccg | 240 |
| gcttgagcag | gaggatgagg | gcgtcccctc | caccgcaatc | cgcgagatct | cgctcctcaa | 300 |
| ggagatgcat | cacggcaaca | tcgtcagggt | acacgatgtt | atccacagtg | agaagcgcac | 360 |

CD103PCT.ST25.txt

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gtttgcgaaa aaccccaactt taattaagtc atatctctat cagatactcc gcggcggtgc 480
ttactgtcat tctcatagag ttcttcatcg agatttgaaa cctcagaatt tattgataga 540
tcggcggtact aatgcactga agcttgacga ctttggttta gccagggcat ttggaattcc 600
tgtccgcacg tttactcacg aggttgtaac cttgtggtat agagctccag agatccttct 660
tggatcaagg cagtattcta caccagttga tatgtggtca gttggttgta tctttgcaga 720
aatggtgaac cagaaaccac tgttccctgg tgattctgag attgatgaat tatttaagat 780
attcagggta ctaggaactc caaatgaaca aagttggcca ggagttagct cattacctga 840
ctacaagtct gctttcccca agtggcaagc acaggatctt gcaactattg tccctactct 900
tgaccctgct ggtttggaac ttctctctaa aatgcttcgg tacgagccaa acaaaaggat 960
cacagctaga caggctcttg agcatgaata cttcaaggac cttgagatgg tacaatgacc 1020
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ctgtgaacgc tgtgcccttc gtttgggcat ttttg 1115

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<210> 8
 <211> 294
 <212> PRT
 <213> Oryza sativa

<400> 8

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Gln | Tyr | Glu | Lys | Glu | Glu | Lys | Ile | Gly | Glu | Gly | Thr | Tyr | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Val | Val | Tyr | Arg | Ala | Arg | Asp | Lys | Val | Thr | Asn | Glu | Thr | Ile | Ala | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| | | | | | | | | | | | | | | | |
| Lys | Lys | Ile | Arg | Leu | Glu | Gln | Glu | Asp | Glu | Gly | Val | Pro | Ser | Thr | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| | | | | | | | | | | | | | | | |
| Ile | Arg | Glu | Ile | Ser | Leu | Leu | Lys | Glu | Met | His | His | Gly | Asn | Ile | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| | | | | | | | | | | | | | | | |
| Arg | Leu | His | Asp | Val | Ile | His | Ser | Glu | Lys | Arg | Ile | Tyr | Leu | Val | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| | | | | | | | | | | | | | | | |
| Glu | Tyr | Leu | Asp | Leu | Asp | Leu | Lys | Lys | Phe | Met | Asp | Ser | Cys | Pro | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| | | | | | | | | | | | | | | | |
| Phe | Ala | Lys | Asn | Pro | Thr | Leu | Ile | Lys | Ser | Tyr | Leu | Tyr | Gln | Ile | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| | | | | | | | | | | | | | | | |
| Arg | Gly | Val | Ala | Tyr | Cys | His | Ser | His | Arg | Val | Leu | His | Arg | Asp | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| | | | | | | | | | | | | | | | |
| Lys | Pro | Gln | Asn | Leu | Leu | Ile | Asp | Arg | Arg | Thr | Asn | Ala | Leu | Lys | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| | | | | | | | | | | | | | | | |
| Ala | Asp | Phe | Gly | Leu | Ala | Arg | Ala | Phe | Gly | Ile | Pro | Val | Arg | Thr | Phe |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| | | | | | | | | | | | | | | | |
| Thr | His | Glu | Val | Val | Thr | Leu | Trp | Tyr | Arg | Ala | Pro | Glu | Ile | Leu | Leu |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| | | | | | | | | | | | | | | | |
| Gly | Ser | Arg | Gln | Tyr | Ser | Thr | Pro | Val | Asp | Met | Trp | Ser | Val | Gly | Cys |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| | | | | | | | | | | | | | | | |
| Ile | Phe | Ala | Glu | Met | Val | Asn | Gln | Lys | Pro | Leu | Phe | Pro | Gly | Asp | Ser |
| | 195 | | | | | | 200 | | | | | 205 | | | |

CD103PCT.ST25.txt

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
 210 215 220
 Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
 225 230 235 240
 Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
 245 250 255
 Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
 260 265 270
 Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285
 Asp Leu Glu Met Val Gln
 290
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 <211> 294
 <212> PRT
 <213> Oryza sativa
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 Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30
 Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45
 Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60
 Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Asp Phe
 65 70 75 80
 Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95
 Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
 100 105 110
 Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
 115 120 125
 Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
 130 135 140
 Ala Asp Phe Gly Leu Ala Arg Thr Phe Gly Ile Pro Val Arg Thr Phe
 145 150 155 160
 Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
 165 170 175
 Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
 180 185 190

CD103PCT.ST25.txt

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
 195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
 210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
 225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
 245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
 260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285

Asp Leu Glu Met Val Gln
 290

<210> 10
 <211> 294
 <212> PRT
 <213> Oryza sativa

<400> 10
 Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
 1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Thr Ala Leu
 20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
 100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
 115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
 130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
 145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu

CD103PCT.ST25.txt

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165              170              175
Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180              185              190
Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195              200              205
Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210              215              220
Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225              230              235              240
Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245              250              255
Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260              265              270
Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275              280              285
Asp Leu Glu Met Val Gln
290

<210>  11
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Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
20              25              30
Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35              40              45
Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50              55              60
Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65              70              75              80
Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85              90              95
Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100             105             110
Arg Gly Val Ala Tyr Cys His Ser His Ser Val Leu His Arg Asp Leu
115             120             125
Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Glu Leu
130             135             140

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CD103PCT.ST25.txt

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
 145 150 155 160
 Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
 165 170 175
 Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
 180 185 190
 Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
 195 200 205
 Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
 210 215 220
 Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
 225 230 235 240
 Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
 245 250 255
 Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
 260 265 270
 Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285
 Asp Leu Glu Met Val Gln
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 <213> Oryza sativa
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 1 5 10 15
 Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30
 Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45
 Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60
 Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80
 Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95
 Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
 100 105 110
 Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
 115 120 125

CD103PCT.ST25.txt

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
 130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Arg Ile Pro Val Arg Thr Phe
 145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
 165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
 180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
 195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
 210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
 225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
 245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
 260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285

Asp Leu Glu Met Val Gln
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<210> 13
 <211> 294
 <212> PRT
 <213> Oryza sativa

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 1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30

Lys Lys Ile Arg Leu Ala Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu

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| 100 | 105 | 110 |
|---|-----|-------------|
| Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu | | |
| 115 | 120 | 125 |
| Lys Pro Gln Asn Leu Leu Ile Asp Leu Arg Thr Asn Ala Leu Lys Leu | | |
| 130 | 135 | 140 |
| Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe | | |
| 145 | 150 | 155 160 |
| Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu | | |
| | 165 | 170 175 |
| Gly Ser Arg Gln Tyr Ala Thr Pro Val Asp Met Trp Ser Val Gly Cys | | |
| | 180 | 185 190 |
| Thr Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser | | |
| | 195 | 200 205 |
| Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn | | |
| | 210 | 215 220 |
| Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala | | |
| | 225 | 230 235 240 |
| Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu | | |
| | 245 | 250 255 |
| Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Val Leu Arg Tyr Glu Pro | | |
| | 260 | 265 270 |
| Asn Lys Arg Ile Thr Ala Gln Gln Ala Leu Glu His Glu Tyr Phe Lys | | |
| | 275 | 280 285 |
| Asp Leu Glu Met Val Gln | | |
| 290 | | |

<210> 14
 <211> 1243
 <212> DNA
 <213> Oryza sativa

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| gttttccgat cgagggacga aaatcggatt cggtgtaaag ttaagggacc tcagatgaac | | | | | | 120 |
| ttattccgga gcatgattgg gaagggagga cataaggccc atgtcgcgatg tgtttggaacg | | | | | | 180 |
| gtccagatct ccagatcact cagcaggatc ggccgcggtc gcgtagcacc cgcggtttga | | | | | | 240 |
| ttcggcttcc cgcaaggcgg cggccggttg ccgtgcccgc gtagcttccg ccggaagcga | | | | | | 300 |
| gcacgccgcc gccgccgacc cggctctgcg tttgcaccgc cttgcaecgc atacatcggg | | | | | | 360 |
| atagatagct actactctct ccgtttcaca atgtaaataa ttctactatt ttccacattc | | | | | | 420 |
| atattgatgt taatgaatat agacatatat atctatttag attcattaac atcaatatga | | | | | | 480 |
| atgtaggaaa tgctagaatg acttacattg tgaattgtga aatggacgaa gtacctacga | | | | | | 540 |
| tggtatgatg caggatcatg aaagaattaa tgcaagatcg tatctgccgc atgcaaaatc | | | | | | 600 |
| ttactaatg cgctgcatat atgcatgaca gcctgcatgc gggcgtgtaa gcgtgttcat | | | | | | 660 |
| ccattaggaa gtaaccttgt cattacttat accagtacta catactatat agtattgatt | | | | | | 720 |
| tcatgagcaa atctacaaaa ctggaaagca ataagaaata cgggactgga aaagactcaa | | | | | | 780 |
| cattaatcac caaatatttc gccttctcca gcagaatata tatctctcca tcttgatcac | | | | | | 840 |
| tgtacacact gacagtgtac gcataaacgc agcagccagc ttaactgtcg tctcaccgtc | | | | | | 900 |

CD103PCT.ST25.txt

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| gcacactggc | cttccatctc | aggctagctt | tctcagccac | ccatcgtaga | tgtcaactcg | 960 |
| gcgcgcgcac | aggcacaat | tacgtacaaa | acgcatgacc | aaatcaaaac | caccggagaa | 1020 |
| gaatcgctcc | cgcgcgcggc | ggcgacgcgc | acgtacgaac | gcacgcacgc | acgcccaacc | 1080 |
| ccacgacacg | atcgcgcgcg | acgccggcga | caccggccgt | ccacccgcgc | cctcacctcg | 1140 |
| ccgactataa | atacgtaggc | atctgcttga | tcttgctatc | catctcacca | ccaaaaaaa | 1200 |
| aaggaaaaaa | aaacaaaaca | caccaagcca | aataaaagcg | aca | | 1243 |

<210> 15
 <211> 2191
 <212> DNA
 <213> *Oryza sativa*

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| <400> 15 | | | | | | |
| aatccgaaaa | gtttctgcac | cgttttcacc | ccctaactaa | caatataggg | aacgtgtgct | 60 |
| aaatataaaa | tgagacctta | tatatgtagc | gctgataact | agaactatgc | aagaaaaact | 120 |
| catccaccta | ctttagtggc | aatcgggcta | aataaaaaag | agtcgctaca | ctagtttcgt | 180 |
| tttccttagt | aattaagtgg | gaaaaatgaaa | tcattattgc | ttagaatata | cgttcacatc | 240 |
| tctgtcatga | agttaaatta | ttcgaggtag | ccataattgt | catcaaactc | ttcttgaata | 300 |
| aaaaaatctt | tctagctgaa | ctcaatgggt | aaagagagag | atTTTTTTT | aaaaaataga | 360 |
| atgaagatat | tctgaacgta | ttggcaaaga | tttaaacata | taattatata | atTTTtagt | 420 |
| ttgtgcattc | gtcatatcgc | acatcattaa | ggacatgtct | tactccatcc | caatttttat | 480 |
| ttagtaatta | aagacaattg | acttattttt | attattttatc | ttttttcgat | tagatgcaag | 540 |
| gtacttacgc | acacactttg | tgctcatgtg | catgtgtgag | tgacacctct | caatacacgt | 600 |
| tcaactagca | acacatctct | aatatcactc | gcctatttaa | tacatttagg | tagcaatatc | 660 |
| tgaattcaag | cactccacca | tcaccagacc | acttttaata | atatctaaaa | tacaaaaaat | 720 |
| aatttttacag | aatagcatga | aaagtatgaa | acgaactatt | taggtttttc | acatacaaaa | 780 |
| aaaaaaagaa | ttttgctcgt | gcgcgagcgc | caatctccca | tattgggcac | acaggcaaca | 840 |
| acagagtggc | tgccccacaga | acaaccacaa | aaaaacgatg | atctaacgga | ggacagcaag | 900 |
| tccgcaacaa | ccttttaaca | gcaggctttg | cggccaggag | agaggaggag | aggcaaaaga | 960 |
| aaccaagcat | cctcctcctc | ccatctataa | attcctcccc | ccttttcccc | tctctatata | 1020 |
| ggaggcatcc | aagccaagaa | gaggggagagc | accaaggaca | cgcgactagc | agaagccgag | 1080 |
| cgaccgcctt | cttcgatcca | tatcttcggg | tcgagttctt | ggtcgatctc | ttccctcctc | 1140 |
| cacctcctcc | tcacagggtta | tgtgcccttc | ggttgttctt | ggattttattg | ttctaggttg | 1200 |
| tgtagtacgg | gcgttgatgt | taggaaaggg | gatctgtatc | tgtgatgatt | cctgttcttg | 1260 |
| gatttgggat | agaggggttc | ttgatgttgc | atgttatcgg | ttcggtttga | ttagtagtat | 1320 |
| ggttttcaat | cgtctggaga | gctctatgga | aatgaaatgg | tttagggtag | ggaatcttgc | 1380 |
| gattttgtga | taccttttgt | ttgaggtaaa | atcagagcac | cgggtgatttt | gcttgggtga | 1440 |
| ataaaagtac | ggttgttttg | tcctcgattc | tggtagtgat | gcttctcgat | ttgacgaagc | 1500 |
| tatcctttgt | ttattcccta | ttgaacaaaa | ataatccaac | tttgaagacg | gtcccgttga | 1560 |
| tgagattgaa | tgattgattc | ttaagcctgt | ccaaaatttc | gcagctggct | tgtttagata | 1620 |
| cagtagtccc | catcacgaaa | ttcatggaaa | cagttataat | cctcagggaac | aggggattcc | 1680 |
| ctgttcttcc | gatttgcttt | agtcccagaa | tttttttccc | caaatatctt | aaaaagtcac | 1740 |
| tttctgggtc | agttcaatga | attgattgct | acaaataatg | cttttatagc | gttatccatg | 1800 |
| ctgtagttca | gttaataggt | aataccctta | tagtttagtc | aggagaagaa | cttatccgat | 1860 |
| ttctgatctc | cattttttaat | tatatgaaat | gaactgtagc | ataagcagta | ttcatttgga | 1920 |
| ttattttttt | tttagctctc | accccttcat | tattctgagc | tgaaagtctg | gcatgaactg | 1980 |
| tcctcaattt | tgttttcaaa | ttcacatcga | ttatctatgc | attatcctct | tgatcttacc | 2040 |
| tgtagaagtt | cttttttggt | tattccttga | ctgcttgatt | acagaaagaa | atTTtagaag | 2100 |
| ctgtaatcgg | gatagttata | ctgcttggtc | ttatgattca | tttcctttgt | gcagttcttg | 2160 |
| gtgtagcttg | ccactttcac | cagcaaaagt | c | | | 2191 |

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<220>
 <223> sense primer: prm0350

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 <220>
 <223> antisense primer: prm0351

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 <213> Artificial sequence

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 <223> sense primer: prm439

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 <210> 19
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 <213> Artificial sequence

 <220>
 <223> antisense primer: prm440

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 <210> 20
 <211> 54
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> sense primer: prm2213

 <400> 20
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 <210> 21
 <211> 49
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> antisense primer: prm2214

 <400> 21
 ggggaccact ttgtacaaga aagctgggtt cagagagagg acttgtcag 49

10/570554

IAP20 Rec'd PCT/PTO 03 MAR 2006

SEQUENCE LISTING

<110> Broekaert, Willem
 Frankard, Valerie
 Hatzfeld, Yves
 Mironov, Vladimir

<120> Plants having modified growth characteristics and method for
 making the same

<130> 1187-44

<140> 2006-03-03

<150> PCT/EP2004/052035

<151> 2004-09-03

<150> EP 03077811.2

<151> 2003-09-05

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<211> 930

<212> DNA

<213> Arabidopsis thaliana

<400> 1

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| gcgatggaga aaggaactgg taagcttggt gctctgaaga aaactcgtct cgagatggac | 120 |
| gaagaaggta ttccaccaac tgctcttctg gagatctcgc ttctccagat gttatcaaca | 180 |
| tcgatctatg ttgttcgatt actctgcgtc gaacatgttc atcaaccatc aaccaaactc | 240 |
| caatctacca aatccaactc ctatctcgtt ttcgagtatc tcgatactga tcttaagaaa | 300 |
| ttcatcgatt cgtataggaa aggacctaat cctaagcctc ttgagccttt tttgattcag | 360 |
| aagttgatgt ttcagctttg taaagggtgt gcgcattgtc atagtcattg tgtgcttcac | 420 |
| cgtgatctta aaccgcagaa tcttcttctg gtgaaagata aagagcttct taagattgct | 480 |
| gatttggtgc ttggtcgtgc ttttactggt cctcttaagt cttatacgca tgagattggt | 540 |
| actcttttgt atagagctcc tgaagttctt cttggatcta ctcatattc aactgggtgt | 600 |
| gacatgttgt ctgttggttg tatctttgct gagatggttc ggaggcaagc tcttttccct | 660 |
| ggtgattctg agtttcagca attgcttcat atcttcaggt tgctaggaa accaactgag | 720 |
| cagcaatggc cgggtgtttc cacactgcgt gactggcatg tttaccctaa gtgggagccg | 780 |
| caagacttaa ctcttgctgt tccttctctt tcacctcaag gagttgatct tctcacgaaa | 840 |

atgctcaagt acaatccagc cgaaagaatt tcagcaaaaa cagcacttga tcacccatat 900

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<211> 309

<212> PRT

<213> Arabidopsis thaliana

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Lys Val Tyr Lys Ala Met Glu Lys Gly Thr Gly Lys Leu Val Ala Leu
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Lys Lys Thr Arg Leu Glu Met Asp Glu Glu Gly Ile Pro Pro Thr Ala
35 40 45

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Thr Ser Ile Tyr Val
50 55 60

Val Arg Leu Leu Cys Val Glu His Val His Gln Pro Ser Thr Lys Ser
65 70 75 80

Gln Ser Thr Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu Asp Thr
85 90 95

Asp Leu Lys Lys Phe Ile Asp Ser Tyr Arg Lys Gly Pro Asn Pro Lys
100 105 110

Pro Leu Glu Pro Phe Leu Ile Gln Lys Leu Met Phe Gln Leu Cys Lys
115 120 125

Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp Leu Lys
130 135 140

Pro Gln Asn Leu Leu Leu Val Lys Asp Lys Glu Leu Leu Lys Ile Ala
145 150 155 160

Asp Leu Gly Leu Gly Arg Ala Phe Thr Val Pro Leu Lys Ser Tyr Thr
165 170 175

His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu Leu Gly

180

185

190

Ser Thr His Tyr Ser Thr Gly Val Asp Met Trp Ser Val Gly Cys Ile
 195 200 205

Phe Ala Glu Met Val Arg Arg Gln Ala Leu Phe Pro Gly Asp Ser Glu
 210 215 220

Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro Thr Glu
 225 230 235 240

Gln Gln Trp Pro Gly Val Ser Thr Leu Arg Asp Trp His Val Tyr Pro
 245 250 255

Lys Trp Glu Pro Gln Asp Leu Thr Leu Ala Val Pro Ser Leu Ser Pro
 260 265 270

Gln Gly Val Asp Leu Leu Thr Lys Met Leu Lys Tyr Asn Pro Ala Glu
 275 280 285

Arg Ile Ser Ala Lys Thr Ala Leu Asp His Pro Tyr Phe Asp Ser Leu
 290 295 300

Asp Lys Ser Gln Phe
 305

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 <212> DNA
 <213> Arabidopsis thaliana

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 gaagaaggta taccaccaac ggctctccgt gagatctctc ttctccaaat gctttctcaa 180
 tcaatctaca tcgttcgtct cctctgctgc gaacatgtta ttcaatcgaa agattcgact 240
 gtttctcact ctcccaaadc caatctctat ctcgtttttg agtatctcga cactgatctc 300
 aagaaattta tagattctca tagaaagggc tcgaatccta gaccgcttga ggcttctctt 360
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attgctgatt tgggtcttag tcgtgctttt actgtgcctc ttaaggctta tacacatgag 540
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gctgttgata tttggtctgt tggatgcac c ttgcccagaga tgattaggag gcaagctctt 660
ttccctgggtg attctgagtt tcagcaacta cttcatattt tcagattggt aggaacacca 720
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gagccgcaag acttatcacg tgctgttcca tctctatctc ctgaaggaat tgatcttctc 840
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<212> PRT
<213> Arabidopsis thaliana

<400> 4

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Lys Val Tyr Lys Ala Met Glu Lys Thr Thr Gly Lys Leu Val Ala Leu
20 25 30

Lys Lys Thr Arg Leu Glu Met Asp Glu Glu Gly Ile Pro Pro Thr Ala
35 40 45

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Gln Ser Ile Tyr Ile
50 55 60

Val Arg Leu Leu Cys Val Glu His Val Ile Gln Ser Lys Asp Ser Thr
65 70 75 80

Val Ser His Ser Pro Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu
85 90 95

Asp Thr Asp Leu Lys Lys Phe Ile Asp Ser His Arg Lys Gly Ser Asn
100 105 110

Pro Arg Pro Leu Glu Ala Ser Leu Val Gln Arg Phe Met Phe Gln Leu
115 120 125

Phe Lys Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp

| | | |
|---|-----|-------------|
| 130 | 135 | 140 |
| Leu Lys Pro Gln Asn Leu Leu Leu Asp Lys Asp Lys Gly Ile Leu Lys | | |
| 145 | 150 | 155 160 |
| Ile Ala Asp Leu Gly Leu Ser Arg Ala Phe Thr Val Pro Leu Lys Ala | | |
| | 165 | 170 175 |
| Tyr Thr His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu | | |
| | 180 | 185 190 |
| Leu Gly Ser Thr His Tyr Ser Thr Ala Val Asp Ile Trp Ser Val Gly | | |
| | 195 | 200 205 |
| Cys Ile Phe Ala Glu Met Ile Arg Arg Gln Ala Leu Phe Pro Gly Asp | | |
| | 210 | 215 220 |
| Ser Glu Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro | | |
| | 225 | 230 235 240 |
| Thr Glu Gln Gln Trp Pro Gly Val Met Ala Leu Arg Asp Trp His Val | | |
| | 245 | 250 255 |
| Tyr Pro Lys Trp Glu Pro Gln Asp Leu Ser Arg Ala Val Pro Ser Leu | | |
| | 260 | 265 270 |
| Ser Pro Glu Gly Ile Asp Leu Leu Thr Gln Met Leu Lys Tyr Asn Pro | | |
| | 275 | 280 285 |
| Ala Glu Arg Ile Ser Ala Lys Ala Ala Leu Asp His Pro Tyr Phe Asp | | |
| | 290 | 295 300 |
| Ser Leu Asp Lys Ser Gln Phe | | |
| 305 | 310 | |

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<211> 948

<212> DNA

<213> Arabidopsis thaliana

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atcgttgctt tgaagaagac gcgtctccat gaggatgaag aaggtgttcc tcccactact 180
 cttcgcgaga tctctatctt gcgtatgctc gctcgtgac ctcacatcgt taggttgatg 240
 gatgttaagc aaggaataaa caaagaagga aaaactgtac tttaccttgt tttcgagtat 300
 gttgatactg atctcaagaa attcatcaga agctttcgtc aagctggaca gaacattcca 360
 caaaatactg tcaagtgcct gatgtaccag ttatgcaaag gcatggcttt ttgccatggt 420
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 ccgcaatgga aaccgttgag tctctccaca gctgtgcaa acctcgacga ggctggactt 840
 gatctcttat ctaaaatgct ggagtacgag ccagcaaaac gaatctcagc aaagaaagct 900
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 <213> *Arabidopsis thaliana*

<400> 6

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Ala Arg Glu Lys Ala Thr Gly Met Ile Val Ala Leu Lys Lys Thr Arg
 35 40 45

Leu His Glu Asp Glu Glu Gly Val Pro Pro Thr Thr Leu Arg Glu Ile
 50 55 60

Ser Ile Leu Arg Met Leu Ala Arg Asp Pro His Ile Val Arg Leu Met
 65 70 75 80

Asp Val Lys Gln Gly Ile Asn Lys Glu Gly Lys Thr Val Leu Tyr Leu

85

90

95

Val Phe Glu Tyr Val Asp Thr Asp Leu Lys Lys Phe Ile Arg Ser Phe
 100 105 110

Arg Gln Ala Gly Gln Asn Ile Pro Gln Asn Thr Val Lys Cys Leu Met
 115 120 125

Tyr Gln Leu Cys Lys Gly Met Ala Phe Cys His Gly His Gly Val Leu
 130 135 140

His Arg Asp Leu Lys Pro His Asn Leu Leu Met Asp Arg Lys Thr Met
 145 150 155 160

Thr Leu Lys Ile Ala Asp Leu Gly Leu Ala Arg Ala Phe Thr Leu Pro
 165 170 175

Met Lys Lys Tyr Thr His Glu Ile Leu Thr Leu Trp Tyr Arg Ala Pro
 180 185 190

Glu Val Leu Leu Gly Ala Thr His Tyr Ser Thr Gly Val Asp Met Trp
 195 200 205

Ser Val Gly Cys Ile Phe Ala Glu Leu Val Thr Lys Gln Ala Ile Phe
 210 215 220

Ala Gly Asp Ser Glu Leu Gln Gln Leu Leu Arg Ile Phe Arg Leu Leu
 225 230 235 240

Gly Thr Pro Asn Glu Glu Val Trp Pro Gly Val Ser Lys Leu Lys Asp
 245 250 255

Trp His Glu Tyr Pro Gln Trp Lys Pro Leu Ser Leu Ser Thr Ala Val
 260 265 270

Pro Asn Leu Asp Glu Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Glu
 275 280 285

Tyr Glu Pro Ala Lys Arg Ile Ser Ala Lys Lys Ala Met Glu His Pro
 290 295 300

Tyr Phe Asp Asp Leu Pro Asp Lys Ser Ser Leu
 305 310 315

<210> 7
 <211> 1115
 <212> DNA
 <213> Oryza sativa

<400> 7
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 ggggttaacc ctgatggagc agtacgagaa ggaggagaag attggggagg gcacgtacgg 180
 ggtggtgtac agggcgcggg acaaggtcac caacgagacg atcgcgctca agaagatccg 240
 gcttgagcag gaggatgagg gcgtcccctc caccgcaatc cgcgagatct cgctcctcaa 300
 ggagatgcat cacggcaaca tcgtcagggtt acacgatgtt atccacagtg agaagcgcac 360
 atatcttgtc tttgagtatc tggatctgga cctaaagaag ttcattggact cttgtccaga 420
 gtttgcgaaa aacccactt taattaagtc atatctctat cagatactcc gcggcggttg 480
 ttactgtcat tctcatagag ttcttcatcg agatttgaaa cctcagaatt tattgataga 540
 tcggcgctact aatgcactga agcttgacga ctttggttta gccagggcat ttggaattcc 600
 tgtccgcacg tttactcacg aggttgtaac cttgtggtat agagctccag agatccttct 660
 tggatcaagg cagtattcta caccagttga tatgtggtca gttggttgta tctttgcaga 720
 aatggtgaac cagaaaccac tgttccctgg tgattctgag attgatgaat tatttaagat 780
 attcagggta ctaggaactc caaatgaaca aagttggcca ggagttagct cattacctga 840
 ctacaagtct gctttcccca agtggcaagc acaggatctt gcaactattg tccctactct 900
 tgacctgct ggtttgacc ttctctctaa aatgcttcgg tacgagcaa acaaaaggat 960
 cacagctaga caggctcttg agcatgaata cttcaaggac cttgagatgg tacaatgacc 1020
 ctgctatggc ttacattgg attggcatat gtatgggctg ggctcctcat ttcattcctt 1080
 ctgtgaacgc tgtgcccttc gtttgggcat ttttg 1115

<210> 8
 <211> 294
 <212> PRT
 <213> Oryza sativa

<400> 8

Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
 1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

<210> 9
<211> 294
<212> PRT
<213> Oryza sativa

<400> 9

Met Glu Gln His Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Asp Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Thr Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

<210> 10
<211> 294
<212> PRT
<213> Oryza sativa

<400> 10

Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Thr Ala Leu
20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro

260

265

270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285

Asp Leu Glu Met Val Gln
 290

<210> 11
 <211> 294
 <212> PRT
 <213> Oryza sativa

<400> 11

Met Glu Gln Tyr Val Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
 1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
 100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Ser Val Leu His Arg Asp Leu
 115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Glu Leu
 130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
 145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

<210> 12
<211> 294
<212> PRT
<213> Oryza sativa

<400> 12

Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val

| | | |
|-------------------------|-----------------------------|-------------------------|
| 50 | 55 | 60 |
| Arg Leu His Asp Val | Ile His Ser Glu Lys | Arg Ile Tyr Leu Val Phe |
| 65 | 70 | 75 80 |
| Glu Tyr Leu Asp Leu | Asp Leu Lys Lys Phe Met | Asp Ser Cys Pro Glu |
| 85 | 90 | 95 |
| Phe Ala Lys Asn Pro Thr | Leu Ile Lys Ser Tyr Leu Tyr | Gln Ile Leu |
| 100 | 105 | 110 |
| Arg Gly Val Ala Tyr Cys | His Ser His Arg Val Leu His | Arg Asp Leu |
| 115 | 120 | 125 |
| Lys Pro Gln Asn Leu Leu | Ile Asp Arg Arg Thr Asn Ala | Leu Lys Leu |
| 130 | 135 | 140 |
| Ala Asp Phe Gly Leu Ala | Arg Ala Phe Arg Ile Pro Val | Arg Thr Phe |
| 145 | 150 | 155 160 |
| Thr His Glu Val Val Thr | Leu Trp Tyr Arg Ala Pro Glu | Ile Leu Leu |
| 165 | 170 | 175 |
| Gly Ser Arg Gln Tyr Ser | Thr Pro Val Asp Met Trp Ser | Val Gly Cys |
| 180 | 185 | 190 |
| Ile Phe Ala Glu Met Val | Asn Gln Lys Pro Leu Phe Pro | Gly Asp Ser |
| 195 | 200 | 205 |
| Glu Ile Asp Glu Leu Phe | Lys Ile Phe Arg Val Leu Gly | Thr Pro Asn |
| 210 | 215 | 220 |
| Glu Gln Ser Trp Pro Gly | Val Ser Ser Leu Pro Asp Tyr | Lys Ser Ala |
| 225 | 230 | 235 240 |
| Phe Pro Lys Trp Gln Ala | Gln Asp Leu Ala Thr Ile Val | Pro Thr Leu |
| 245 | 250 | 255 |
| Asp Pro Ala Gly Leu Asp | Leu Leu Ser Lys Met Leu Arg | Tyr Glu Pro |
| 260 | 265 | 270 |
| Asn Lys Arg Ile Thr Ala | Arg Gln Ala Leu Glu His Glu | Tyr Phe Lys |
| 275 | 280 | 285 |

Asp Leu Glu Met Val Gln
290

<210> 13
<211> 294
<212> PRT
<213> Oryza sativa

<400> 13

Met Glu Pro Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
20 25 30

Lys Lys Ile Arg Leu Ala Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Leu Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ala Thr Pro Val Asp Met Trp Ser Val Gly Cys
 180 185 190

Thr Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
 195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
 210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
 225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
 245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Val Leu Arg Tyr Glu Pro
 260 265 270

Asn Lys Arg Ile Thr Ala Gln Gln Ala Leu Glu His Glu Tyr Phe Lys
 275 280 285

Asp Leu Glu Met Val Gln
 290

<210> 14
 <211> 1243
 <212> DNA
 <213> Oryza sativa

<400> 14
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 ttattccgga gcatgattgg gaagggagga cataaggccc atgtcgcattg tgtttggacg 180
 gtccagatct ccagatcact cagcaggatc ggccgcgttc gcgtagcacc cgcggtttga 240
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 gcacgccgcc gccgccgacc cggctctgcg tttgcaccgc cttgcacgcg atacatcggg 360
 atagatagct actactctct ccgtttcaca atgtaaatca ttctactatt ttccacattc 420
 atattgatgt taatgaatat agacatatat atctatttag attcattaac atcaatatga 480
 atgtaggaaa tgctagaatg acttacattg tgaattgtga aatggacgaa gtacctacga 540
 tggatggatg caggatcatg aaagaattaa tgcaagatcg tatctgccgc atgcaaaatc 600

| | |
|--|------|
| ttactaattg cgctgcatat atgcatgaca gcctgcatgc gggcgtgtaa gcgtgttcat | 660 |
| ccattaggaa gtaaccttgt cattaacttat accagtacta catactatat agtattgatt | 720 |
| tcatgagcaa atctacaaaa ctggaaagca ataagaaata cgggactgga aaagactcaa | 780 |
| cattaatcac caaatatttc gccttctcca gcagaatata tatctctcca tcttgatcac | 840 |
| tgtacacact gacagtgtac gcataaacgc agcagccagc ttaactgtcg tctcacgcgc | 900 |
| gcacactggc cttccatctc aggctagctt tctcagccac ccatcgtaca tgtcaactcg | 960 |
| gcgcgcgcac aggcacaaat tacgtacaaa acgcatgacc aaatcaaaac caccggagaa | 1020 |
| gaatcgctcc cgcgcgcggc ggcgacgcgc acgtacgaac gcacgcacgc acgcccaacc | 1080 |
| ccacgacacg atcgcgcgcg acgcgcggcg caccggccgt ccaccgcgc cctcacctcg | 1140 |
| ccgactataa atacgtaggc atctgcttga tcttgtcatc catctcacca ccaaaaaaaaa | 1200 |
| aaggaaaaaa aaacaaaaca caccaagcca aataaaagcg aca | 1243 |

<210> 15
 <211> 2191
 <212> DNA
 <213> *Oryza sativa*

| | |
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| <400> 15 | |
| aatccgaaaa gtttctgcac cgttttcacc ccctaactaa caatataggg aacgtgtgct | 60 |
| aaatataaaa tgagacctta tatatgtagc gctgataact agaactatgc aagaaaaact | 120 |
| catccaccta ctttagtggc aatcgggcta aataaaaaag agtcgctaca ctagtttcgt | 180 |
| tttccttagt aattaagtgg gaaaatgaaa tcattattgc ttagaatata cgttcacatc | 240 |
| tctgtcatga agttaaatga ttcgaggtag ccataattgt catcaaactc ttcttgaata | 300 |
| aaaaaatctt tctagctgaa ctcaatgggt aaagagagag atttttttta aaaaaataga | 360 |
| atgaagatat tctgaacgta ttggcaaaga tttaaacata taattatata attttatagt | 420 |
| ttgtgcattc gtcatatcgc acatcattaa ggacatgtct tactccatcc caatttttat | 480 |
| ttagtaatta aagacaattg acttattttt attattttatc ttttttcgat tagatgcaag | 540 |
| gtacttacgc acacactttg tgctcatgtg catgtgtgag tgcacctcct caatacacgt | 600 |
| tcaactagca acacatctct aatatcactc gcctatttaa tacatttagg tagcaatatc | 660 |
| tgaattcaag cactccacca tcaccagacc acttttaata atatctaaaa tacaaaaaat | 720 |
| aattttacag aatagcatga aaagtatgaa acgaactatt taggtttttc acatacaaaa | 780 |
| aaaaaaagaa ttttgctcgt gcgcgagcgc caatctccca tattgggcac acaggcaaca | 840 |

| | |
|--|------|
| acagagtggc tgcccacaga acaaccaca aaaaacgatg atctaacgga ggacagcaag | 900 |
| tccgcaacaa ccttttaaca gcaggctttg cggccaggag agaggaggag aggcaaagaa | 960 |
| aaccaagcat cctcctcctc ccattctataa attcctcccc ccttttcccc tctctatata | 1020 |
| ggaggcatcc aagccaagaa gagggagagc accaaggaca cgcgactagc agaagccgag | 1080 |
| cgaccgcctt cttcgatcca tatcttccgg tcgagttctt ggtcgatctc ttccctcctc | 1140 |
| cacctcctcc tcacagggtg tgtgcccttc ggttggtctt ggatttattg ttctagggtg | 1200 |
| tgtagtacgg gcgttgatgt taggaaaggg gatctgtatc tgtgatgatt cctgttcttg | 1260 |
| gatttgggat agaggggttc ttgatgttgc atgttatcgg ttccggttga ttagtagtat | 1320 |
| ggttttcaat cgtctggaga gctctatgga aatgaaatgg ttaggggtac ggaatcttgc | 1380 |
| gattttgtga taccttttgt ttgaggtaaa atcagagcac cggtgatttt gcttggtgta | 1440 |
| ataaaagtac gggtgtttgg tcctcgattc tggtagtgat gcttctcgat ttgacgaagc | 1500 |
| tatcctttgt ttattcccta ttgaacaaaa ataatccaac tttgaagacg gtcccgttga | 1560 |
| tgagattgaa tgattgattc ttaagcctgt ccaaaatttc gcagctggct tgtttagata | 1620 |
| cagtagtccc catcacgaaa ttcattgaaa cagttataat cctcaggaac aggggattcc | 1680 |
| ctgttcttcc gatttgcttt agtcccagaa ttttttttcc caaatatctt aaaaagtcac | 1740 |
| tttctgggtc agttcaatga attgattgct acaaataatg cttttatagc gttatcctag | 1800 |
| ctgtagttca gttaataggt aatacccta tagtttagtc aggagaagaa cttatccgat | 1860 |
| ttctgatctc ctttttaat tatatgaaat gaactgtagc ataagcagta ttcatttgga | 1920 |
| ttattttttt tttagctctc accccttcat tattctgagc tgaaagtctg gcatgaactg | 1980 |
| tcctcaattt tgttttcaaa ttcacatcga ttatctatgc attatcctct tgtatctacc | 2040 |
| tgtagaagtt tctttttggt tattccttga ctgcttgatt acagaaagaa atttatgaag | 2100 |
| ctgtaatcgg gatagttata ctgcttgctt ttatgattca tttcctttgt gcagttcttg | 2160 |
| gtgtagcttg ccactttcac cagcaaagtt c | 2191 |

<210> 16
 <211> 57
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> sense primer: prm0350

 <400> 16

ggggacaagt ttgtacaaaa aagcaggctt cacaatggag aagtacgaga agctaga 57

<210> 17
<211> 51
<212> DNA
<213> Artificial sequence

<220>
<223> antisense primer: prm0351

<400> 17
ggggaccact ttgtacaaga aagctggggtt cagaactgag acttgtcaag g 51

<210> 18
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> sense primer: prm439

<400> 18
ggggacaagt ttgtacaaaa aagcaggctt cacaatggag aaatacgaga agctc 55

<210> 19
<211> 49
<212> DNA
<213> Artificial sequence

<220>
<223> antisense primer: prm440

<400> 19
ggggaccact ttgtacaaga aagctgggtg gtcagaactg agatttgtc 49

<210> 20
<211> 54
<212> DNA
<213> Artificial sequence

<220>
<223> sense primer: prm2213

<400> 20
ggggacaagt ttgtacaaaa aagcaggctt cacaatggac aacaatggag ttaa 54

<210> 21
<211> 49
<212> DNA
<213> Artificial sequence

<220>

<223> antisense primer: prm2214

<400> 21

ggggaccact ttgtacaaga aagctggggtt cagagagagg acttgtcag

49